PIR

PHOTOGRAPHIC INTERPRETATION REPORT

STATUS OF POL PIPELINE IN NORTH VIETNAM AND LAOS

NPIC/R-53/69
JUNE 1969

WARNING

This document contains information affecting the national defense of the United States, within the meaning of Title 18, sections 793 and 794, of the U.S. Code, as amended. Its transmission or revelation of its contents to or receipt by an unauthorized person is prohibited by law.

Approved For Release 2000/05/10 : CIA-RDP78B04560A006800010048-2

SUMMARY

The petroleum pipe system in the Panhandle region of North Vietnam and Laos is operational to its southern terminus 17 nautical miles (nm) south of Mu Gia Pass. Approximately 160 nm of main line and major service lines are in place. Two east-west lines originating at Vinh provide inputs for the system, both joining the north-south line north of the Song Ca (river) crossing. A series of pumping stations (15 confirmed and five probable) have been identified on the main line.

The system serves eight major petroleum storage areas with a total storage capacity in excess of 10,000 metric tons. The progressive development of the pipe system since its initial identification in [redacted] suggests that further extension and new additions to the system will be made. One such addition was recently discovered in the DMZ area along Route 1036.

25X1D

BASIC DESCRIPTION

Development of the Pipeline System

The first identification of a logistical petroleum pipeline in North Vietnam 25X1D was made on photography of [redacted] At that time 18.7 nm of pipe were observed joining the Nghia Dong Petroleum Products Storage area (PPS) and the Lang Luyen PPS west of Vinh. Since then, the pipe system has continued to be extended and improved.

Construction of the line was relatively slow prior to the bombing halt of 25X1D 1 November 1968. During the [redacted] period the Nghia Dong PPS was largely destroyed and the Lang Luyen PPS damaged. However, interdictions of the pipeline were quickly repaired and the line was extended 5 nm north to the Phu Yen PPS.

Subsequent to November 1968 the rate of pipe installation increased and its operational status was confirmed. The pipe system now consists of a main north-south line and two east-west lines with associated facilities. The north-south line extends from 3.3 nm northwest of the Phu Yen PPS through the Route 15 area of Mu Gia Pass into Laos. It was first identified in Laos in [redacted] 25X1D and its current southern terminus is 17 nm south of the North Vietnam-Laos border near the village of Ban Soy (Figure 1).

Both east-west pipelines extend west from the Vinh PPS and join the north-south line 2 nm north of the Song Ca (river) crossing. These lines generally parallel each other, one north and one south of the Vinh citadel, and provide for the major input into the system. Petroleum reaching the system via water-borne logistics craft is transferred to the Vinh PPS on the Song Ca (Figure 2) and then into the southern east-west line.

This line was first observed under construction in [redacted] Petroleum 25X1D coasters and barges are the major transport for petroleum reaching Vinh by water; however, the Cuu Long, a North Vietnamese AOL (oiler), has also been observed on several occasions in the anchorage at the mouth of the Song Ca. The east-west line north of Vinh provides for petroleum input reaching the system via rail tank cars. The input point is located at a rail spur serving a newly constructed PPS facility northwest of Vinh. Tank cars have been observed on the petroleum rail spur (Figure 3) and in the Vinh rail yard complex since [redacted] 25X1D

25X1D As of [redacted] about 161 nm of pipeline is in place in North Vietnam and Laos. This includes main line pipe, major service pipe, and approximately 17 nm of unconfirmed but necessarily operational gaps (measured in straight-line distances). By the latter part of [redacted] the line was probably operational from Vinh 25X1D to the partially restored Lang Luyen PPS where fuel trucks were observed apparently being filled from the line-served underground storage tanks. The line was

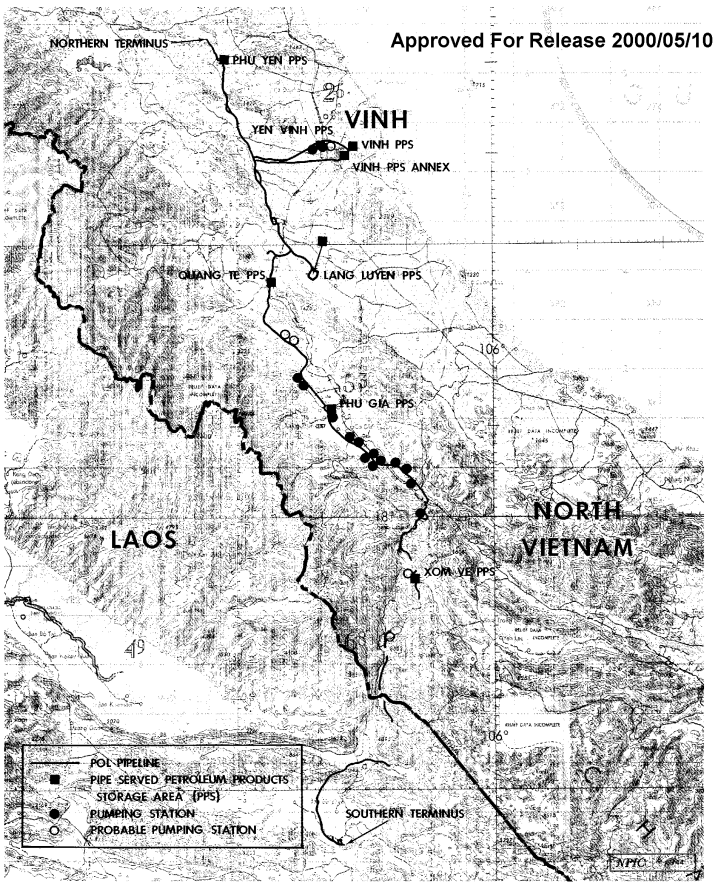


FIGURE 1. GENERAL LOCATION MAP

Table 1. Location of Pumping Stations

Geographic Coordinates	UTM Coordinates
CONFIRMED PUMPING STATIONS	
18-40-41N 105-39-48E	WF 699652
18-40-21N 105-38-38E	WF 680645
18-15-43N 105-37-28E	WF 660191
18-14-46N 105-38-05E	WF 671174
18-11-02N 105-40-40E	WF 717105
18-08-28N 105-42-57E	WF 757058
18-07-48N 105-44-06E	WF 777046
18-07-14N 105-45-00E	WF 793035
18-06-53N 105-45-34E	WF 803029
18-06-02N 105-46-24E	WF 818014
18-05-38N 105-47-20E	WF 834005
18-05-31N 105-48-22E	WF 853004
18-04-56N 105-49-05E	WE 866993
18-03-55N 105-49-50E	WE 879975
17-59-54N 105-51-52E	WE 915901
PROBABLE PUMPING STATIONS	
18-40-54N 105-41-10E	WF 722657
18-19-32N 105-35-55E	WF 631261
18-13-48N 105-36-49E	WF 648247
17-53-12N 105-50-10E	WE 885777
17-64-40N 105-47-11E	WE 834656

Table 2. Location of Major Petroleum Product Storage Areas on Pipeline

Storage Area Pipe-Served	Geographic Coordinates	Estimated Gasoline Capacity
Phu Yen East	18-50-10N 105-28-45E	2,709 MT
Yen Vinh	18-40-50N 105-39-48E	562 MT
Vinh PPS	18-40-09N 105-43-15E	2,533 MT
Vinh PPS Annex	18-40-02N 105-43-06E	1,205 MT
Lang Luyen	18-27-02N 105-39-07E	395 MT
Quang Te	18-26-09N 105-33-50E	1,197 MT
Phu Gia	18-11-17N 105-40-53E	1,404 MT
Xom Ve	17-53-15N 105-50-20E	168 MT*
	Total	10,173 MT

*Pipe-Served Tanks Only

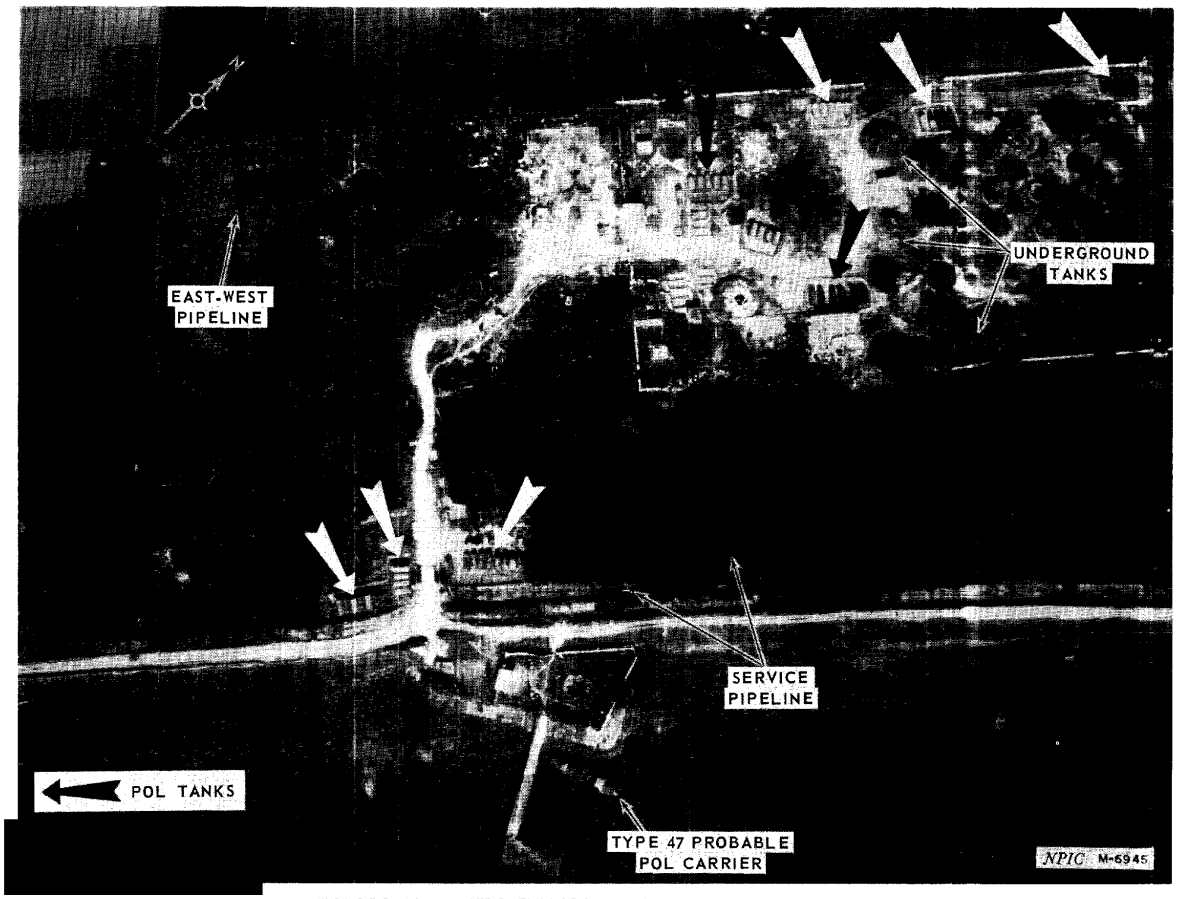
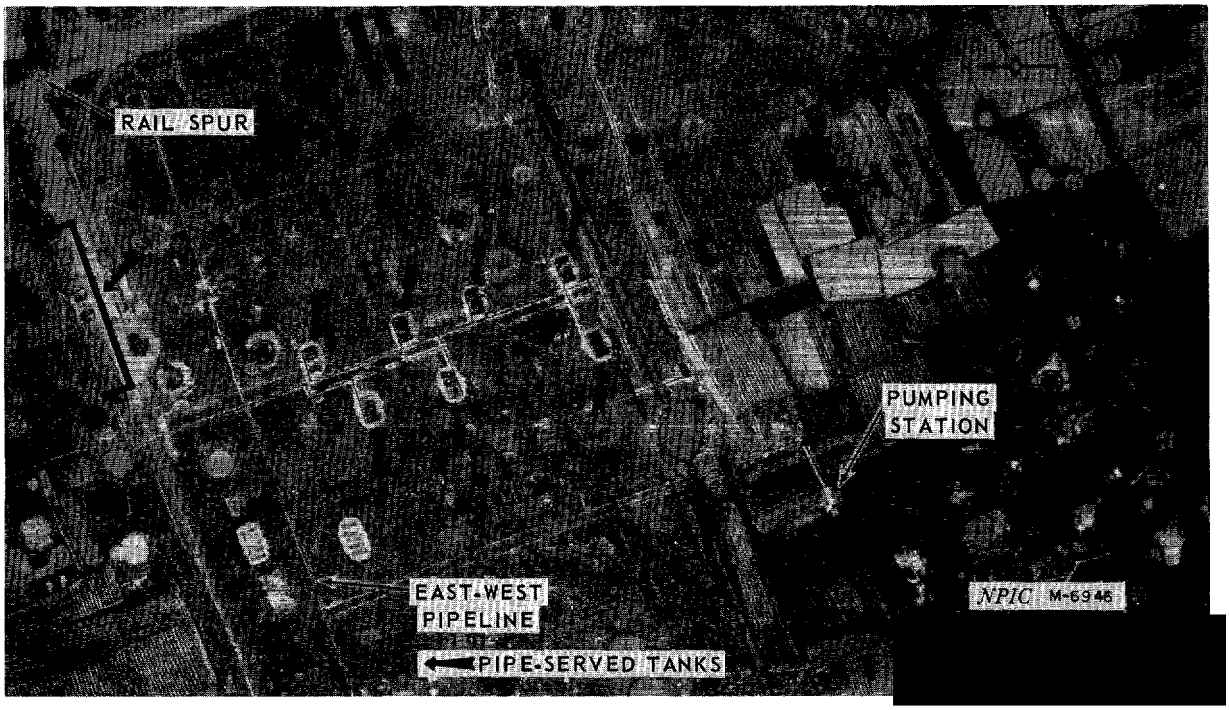


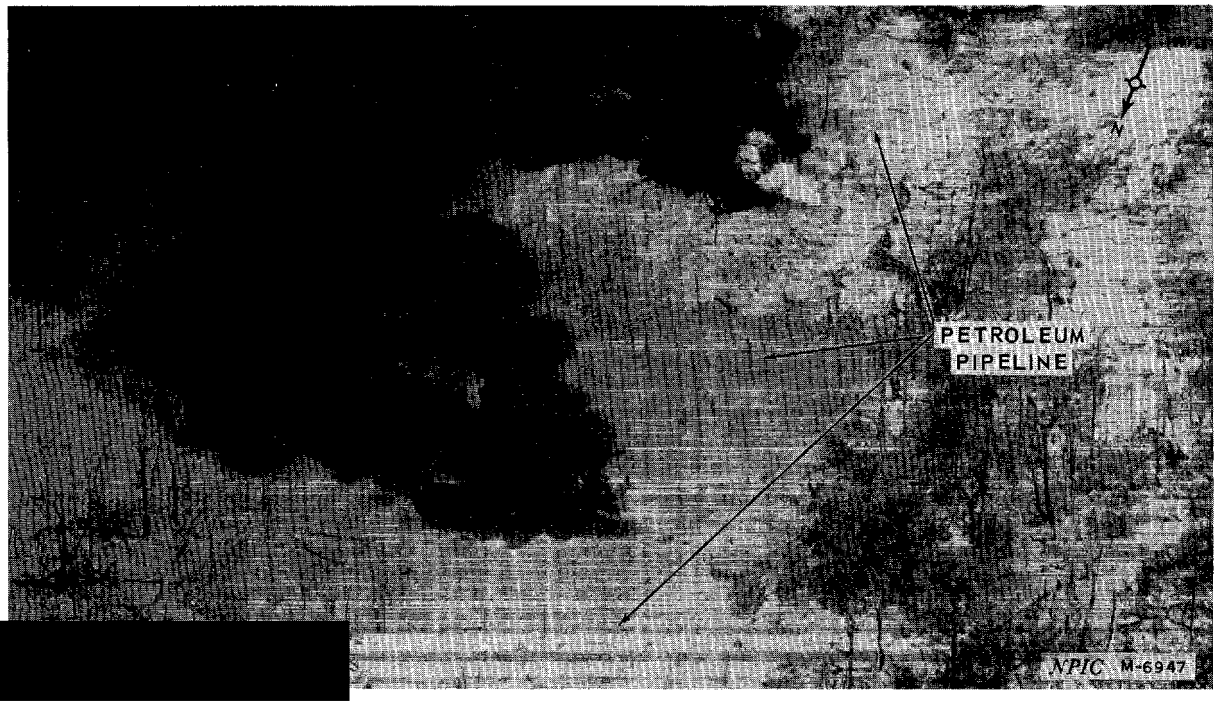
FIGURE 2. VINH PETROLEUM PRODUCTS STORAGE, NORTH VIETNAM

25X1D



25X1D [redacted]

FIGURE 3. VINH RAIL-TO-PIPELINE INPUT POINT, NORTH VIETNAM



25X1D [redacted]

FIGURE 4. INTERDICTIONS TO PETROLEUM PIPELINE, LAOS

25X1D serviceable to Bai Duc Thon by [redacted] and probably operational to
25X1D its present terminus in Laos by [redacted]
25X1D [redacted] confirmed that the pipeline was operational to at least a point 2 nm south of the North Vietnamese border. Petroleum fires caused by interdictions in the line provided solid evidence that the line is under high pressure (Figure 4).

Construction techniques include installation of pipe both above and below ground, undoubtedly regulated by terrain features, and four dual river crossings to assure continuous serviceability of the line. No heavy construction equipment or other large machinery has been observed during construction of the line nor have any large groups of personnel such as construction crews been seen. The
25X1D easily assembled pipe, manufactured in 9-meter lengths, is [redacted] diameter and appears to be made of a light alloy. Some short sections of the line in swampy or wet areas appear to be more flexible and possibly made of rubber.

Pipeline-Associated Facilities

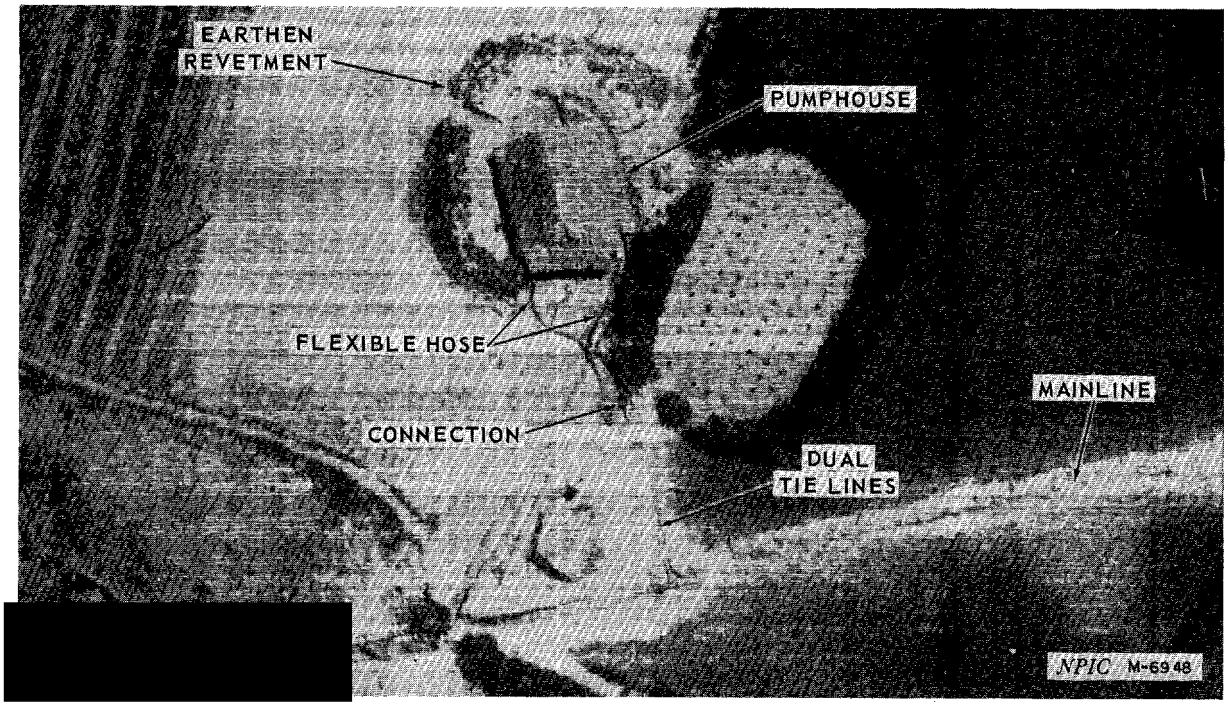
A total of 32 pumping stations have been reported associated with the pipeline. At present 15 pumping stations and five probable pumping stations have been identified by NPIC (Table 1). These stations are adjacent to the line and are easily identified in the level, open areas above Bai Duc Thon but are more difficult to locate in the densely vegetated, uneven topography south of Bai Duc Thon. To date, no pumps have been identified in Laos.

The pumps are usually housed in small revetted huts and joined to the main line by dual (affluent and effluent) lines. Flexible hose from the pump is attached to these lines (Figure 5).

Since the pumps are under cover, the type of pressure pump in use has not been identified. Soviet MPG-23 pumps (Figure 6) have been observed as deck cargo on Soviet merchant ships bound for Haiphong and have been in general use as service pumps at known petroleum storage areas. It is probable that the MPG-23 pumps are being used as service or transfer pumps and larger two-axle pumps as pressure pumps.

Several short single spur lines from both the main line and service lines are probably used for direct transfer of fuel into fuel tank trucks and to a lesser extent into POL drums and cargo vehicles. Such activity is apparent near Bai Duc Thon and in places where the main line closely parallels Route 15 near Mu Gia Pass. Servicing of fuel tank trucks with service pumps has been particularly evident at the Phu Gia and Lang Luyen PPS.

Eight major operational storage areas are being served by the pipe system. These, like many non-pipe-served storage areas in North Vietnam, consist of numerous partially underground (PUG) tanks, bunkered individually or in small groups within the storage site (Figure 7). Most of these tanks are of the 10- and 21-metric-ton (gasoline capacity) size. One or more service pipes from the main



25X1D [redacted]

FIGURE 5. TYPICAL PUMPING STATION, POL PIPELINE, NORTH VIETNAM

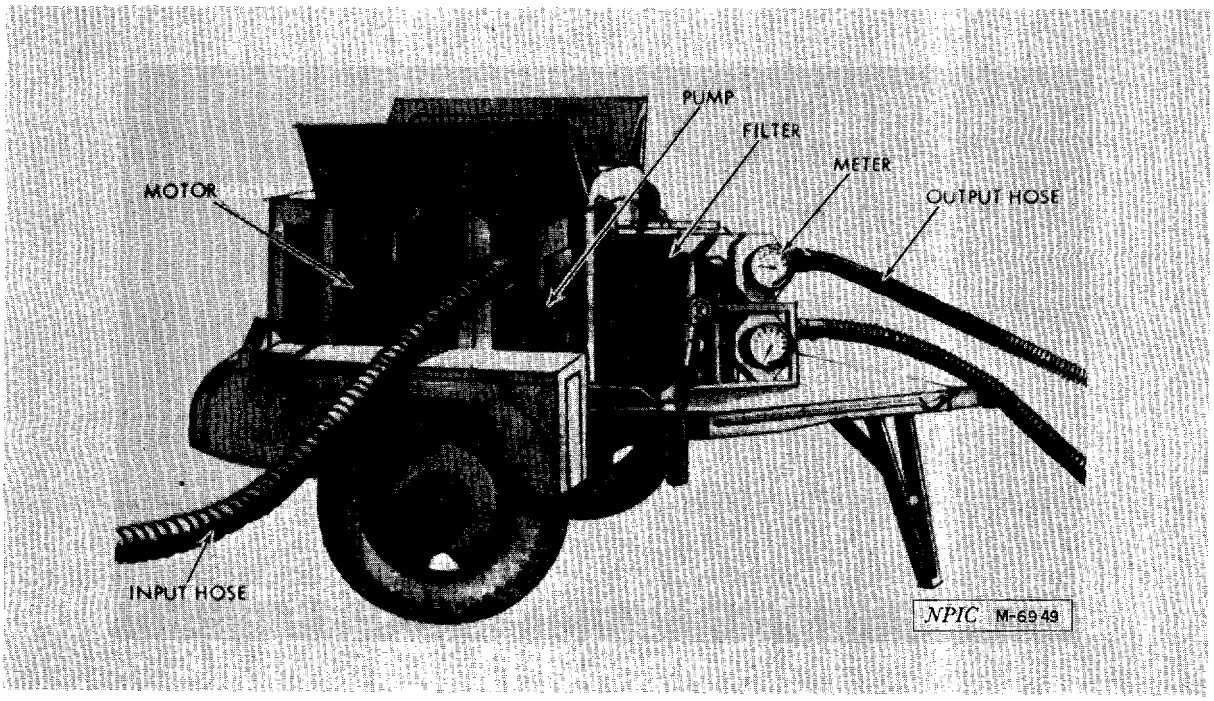
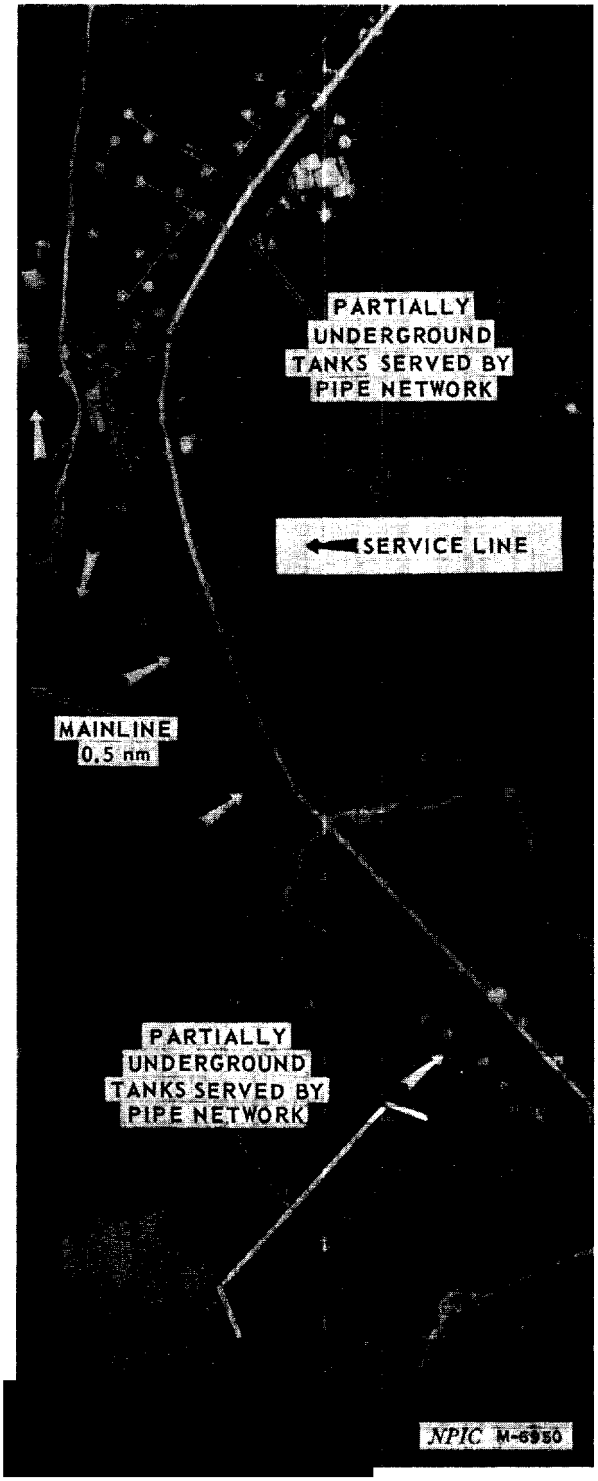


FIGURE 6. SOVIET MPG-23 PUMP



25X1D

FIGURE 7. PHU GIA PETROLEUM PRODUCTS STORAGE AREA, NORTH VIETNAM

pipeline have been constructed into each storage site from which a network of feeder pipe in turn joins each storage bunker with the pipe system. In many cases, flexible hose from the feeder pipe services individual tanks in the bunkered group.

A lack of adequate service roads to several of the pipe-served sites suggests that these sites have been established to hold excess fuel introduced into the line rather than as tank truck reloading areas. When the fuel is needed to the south, petroleum is again pumped from the storage site into the main line. To date, established tank storage areas have not been identified in Laos. It is likely that such storage areas are small and hidden in dense vegetation or karst formations. At least 10,000 metric tons of storage capacity are being served by the pipeline within the eight storage areas (Table 2).

Extensions and additional construction of associated facilities are possible. Additionally, similar independent pipe systems may develop in other areas of the Panhandle region such as the Bat Lake area near the DMZ where photography of [redacted] revealed a new segment of pipeline generally paralleling Route 1036. Only a 0.5-nm segment of pipeline was observed; however, pipe sections stacked in the area indicate further construction is planned. Sightings of pipe stockpiles and pipe sections in transit on Routes 1A and 101 suggest the possibility of similar developments in these areas.

25X1D

REFERENCES

IMAGERY

Project/Mission	Date	Frame	Classification/Control
[redacted]	[redacted]	[redacted]	CONFIDENTIAL/No Foreign Dissem Ex- [redacted] 25X1C
			CONFIDENTIAL
			CONFIDENTIAL
			CONFIDENTIAL
			CONFIDENTIAL/No Foreign Dissem Ex- [redacted] 25X1C

25X1D

DOCUMENTS

FSTC-CS-03-5-68-INT (DIA) June 1968 Page 45 (CONFIDENTIAL)

MAPS AND CHARTS

AMS. Series L7014, Sheets 6144-6146, scale 1:50,000

AMS. JOG (A), Series 1501A, Sheet NE 48-7, scale 1:250,000

AMS. JOG (A), Series 1501, Sheet NE 48-11, scale 1:250,000

NPIC Project 250477